

Name: _____

Exponential Quiz - Practice

Expectation	Level Achieved
A1 - evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common bases;	

1.) Use your exponent laws to simplify the following. Leave your answers with **positive exponents**.

$$5x^{-2} \cdot x^4$$

$$5x^{-2+4}$$

$$5x^2$$

$$\frac{3x^{-5}}{x^2}$$

$$3x^{-5-2}$$

$$3x^{-7}$$

$$\frac{3}{x^7}$$

$$\frac{6x^5 \cdot 4x^{-3}}{2x^{-2}}$$

$$\frac{24x^2}{2x^{-2}}$$

$$12x^{2-(-2)}$$

$$12x^4$$

$$3x^{-2} \cdot -4x^4$$

$$-12x^{-2+4}$$

$$-12x^2$$

$$\frac{100x^5}{2x^{-2}}$$

$$50x^{5-(-2)}$$

$$50x^7$$

$$\frac{(-2x^{-4})^3}{x^{1/2}}$$

$$\frac{(-2)^3 x^{-12}}{x^{1/2}}$$

2) Write as a single exponent. (Do Not Evaluate)

a) $(-3)^{-4} \times (-3)^{-5}$

$$(-3)^{-4+(-5)}$$

$$(-3)^{-9}$$

$$\frac{1}{(-3)^9}$$

b) $(9^{-6})^2$

$$9^{-12}$$

$$\frac{1}{9^{12}}$$

c) $3^{17} \div 3^{-6}$

$$3^{17-(-6)}$$

$$3^{17+6}$$

$$3^{23}$$

$$(-4x^3)^2$$

$$(-4)^2 x^6$$

$$(-5)^2 = (-5)(-5)$$

$$-5^2 = -(5 \times 5)$$

S
E
D
M
A
B

Name: _____

3) Rearrange the following to solve for x

a) $V = P - X$

$$\boxed{+V} = \boxed{+P} - \boxed{X}$$

$$+X = +P - V$$

$$X = P - V$$

4) Write in radical form

$$x^{\frac{2}{7}}$$

$$y^{\frac{3}{8}}$$

$$5^{\frac{1}{7}}$$

$$9^{\frac{1}{2}}$$

$$\sqrt[7]{x^2}$$

$$\sqrt[8]{y^3}$$

$$\sqrt[7]{5}$$

$$\sqrt{9}$$

b) $T = 9 - 8X$

$$T - 9 = -8X$$

$$\frac{T - 9}{-8} = X \checkmark$$

$$\frac{-T + 9}{8}$$

c) $3M = 9T + JX$

$$3M - 9T = JX$$

$$\frac{3M - 9T}{J} = X$$

5) Write in exponential form

$$\sqrt[2]{5^6}$$

$$5^{6/2}$$

$$5^3$$

$$\sqrt[3]{x^5}$$

$$x^{5/3}$$

$$\sqrt[9]{56^2}$$

$$56^{2/9}$$

$$\sqrt[p]{5^v}$$

$$5^{v/p}$$